

# *Nutrition Education*



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*Refer to Glorious Foods*



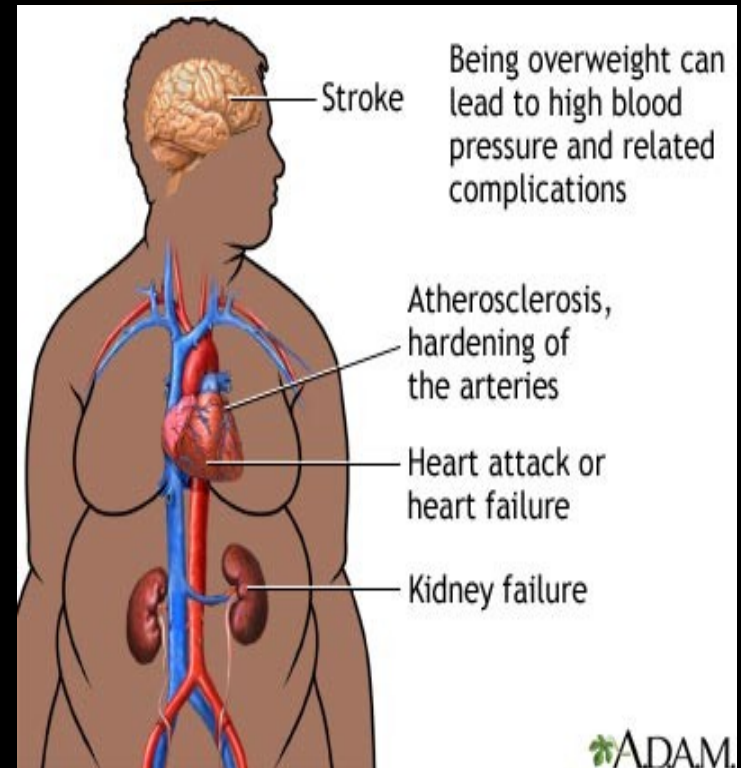
# *Why Should We Care?*



- Nutrition is a known risk factor for the 4 leading causes of death in the U.S.
  - Heart Disease
  - Cancers
  - Stroke
  - Diabetes
- Accountable for 1.4 million deaths/year and \$250 billion each in medical costs
- 35% of all cancers can be avoided by good nutrition and physical activity.

# Obesity

- Based on BMI about 55% of all Americans are overweight.
  - BMI: 18.5 – 24.9 Healthy
  - BMI: 25 – 29.9 Overweight
  - BMI: 30 – 39.9 Obese
- Obesity is correlated with:
  - High Cholesterol
  - Diabetes
  - High Blood Pressure
  - Heart Disease
  - Cancer



# *What's your BMI?*

To determine what your BMI is:

$$\text{Wt} / (\text{ht} \times \text{ht}) \times 703$$

$$\text{Ex. } 110\text{lbs} / (62\text{inches} \times 62 \text{ inches}) \times 703$$

- BMI = 20.12

Not an accurate tool for use with:

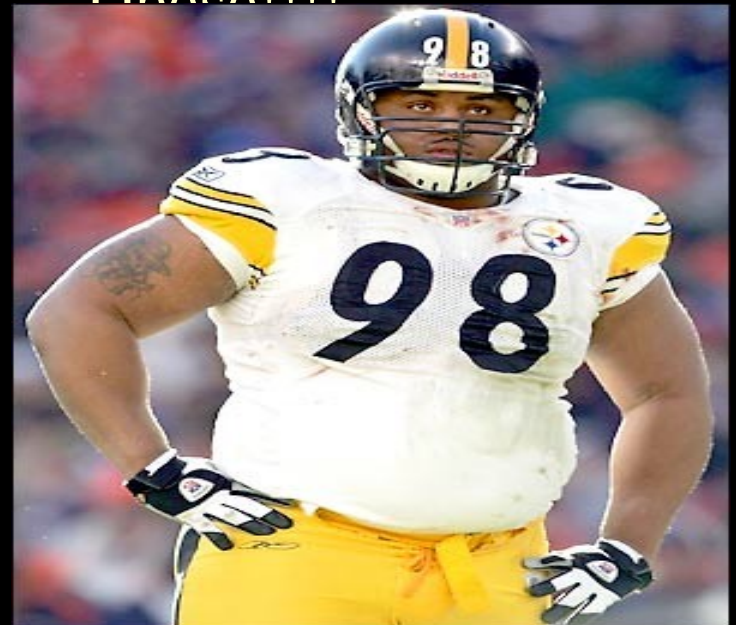
- Athletes
- Pregnant and Lactating women
- Adults over 65

# *BMI Examples*

- Ht: 5'10
- Wt: 209
- BMI: 30
  - Considered Obese!!!!

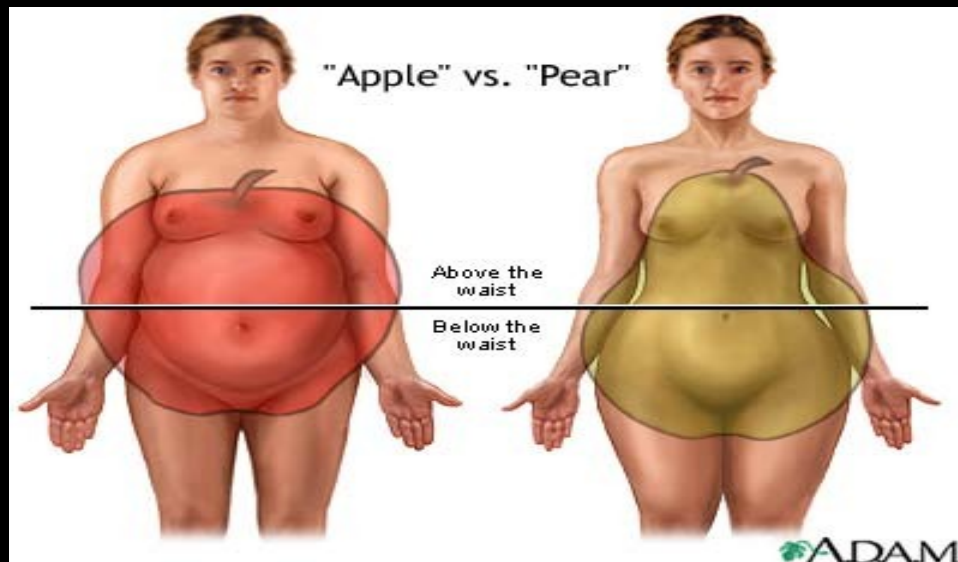


- Ht: 6'1
- Wt: 325lbs
- BMI: 43
  - Considered Morbidly Obese!!!



# *% Body Fat*

- Men
  - 12 -20% Ideal
  - >22 % High
  - 18% Marines Max
- Women
  - 20 -30% Ideal
  - >32% High
  - 26% Marines Max



# *Dietary Guidelines for Americans 2005*

- USDA developed these guidelines using science based advice and evidence to promote health and to reduce the risk for major chronic disease through diet and exercise.



# *Dietary Guidelines for Americans 2005*



- Issues stressed in Guidelines
  - Limit calorie intake
  - Eat a variety of foods
  - Balance the food you eat with physical activity to maintain or improve weight
  - Choose a diet with plenty of whole grains, fruits and vegetables
- Do Not have to give up your favorite foods or consume any strange or unappealing food.

# *Weight Management*

- If you consume more food energy than what is required, your body will store it as excess fat.
- If you consume less food energy than what is required, stored fat is withdrawn.



# *5 – signs of a Fad Diet*

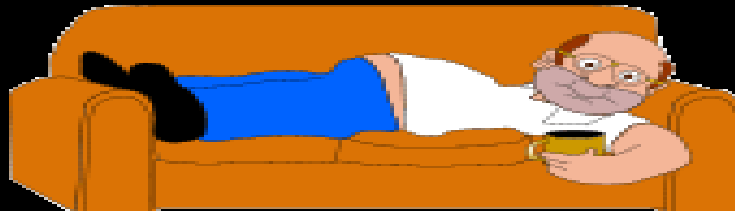


Examples of a Fad Diet????

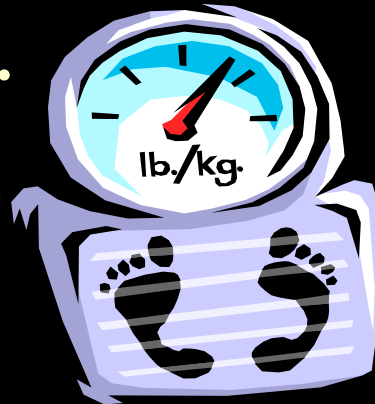


## *– signs of a Fad Diet*

- 1. Rapid weight loss
  - Healthy plans aim for a weight loss of 1 – 2 pounds / week.
- 2. No need to exercise
  - Regular physical activity is essential for weight control and overall good health.



- 3. Magic Food or Supplements
  - There are no miracle foods or pills that burn or melt calories.
- 4. Bizarre quantities and limitations.



- 5. Specific food combinations
  - There is no scientific evidence that states combining foods or eating certain foods at certain times of the day will help in weight loss



# *Creating awareness*



- Create awareness of current eating behaviors.
- Record food choices and approximate amounts that are consumed.
- Record mood, thoughts and feelings before, during, and after eating.
- Track hunger and fullness before and after eating



# *To Lose Weight*

- One pound of fat = 3,500 kcals
- Calorie Expenditure should be more than intake
- To lose 1 -2 lbs per week, expend an extra 500 kcals /day.
- Eat small meals every 3 -4 hours to prevent overeating
- Cut down on portion sizes
- Drink water



# *Metabolism 101*

- Measured in kilocalories
- Total metabolic rate represents:
  - Body functions
  - Daily activities
  - Exercise
- Influenced by:
  - Age
  - Body composition
  - Gender
  - Stress
  - Exercise

Refer to handout

*What are the 6 essential  
nutrients*





# *Essential Nutrients*

- Carbohydrates
- Proteins
- Fat
- Water
- Vitamins
- Minerals



# *A Good Balance*

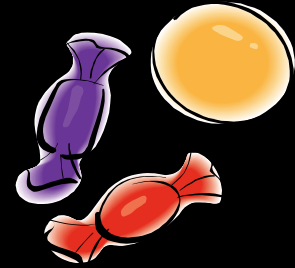
- Carbohydrates 45 – 65%
- Protein 10 – 35%
- Fat 20 – 35%





# Carbohydrates

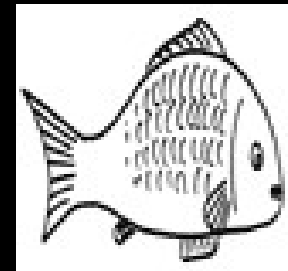
- Main energy source
- Stored as glycogen in the muscles, liver, and blood.
- Two Types:
  - **Simple** – Contain sugar
    - Ex. Sugar cereals, soda, candy
  - **Complex** – Contain fiber
    - Ex. Whole wheat breads, beans, rice, pasta





# *Protein*

- Needed to repair and build body tissues
- Forms enzymes, hormones, antibodies
- Made of Amino Acids
- Athletes only need slightly more protein than non athletes
- **.8 -1.5 grams** of protein per kilogram of body weight



# *Too much Protein?*




- Excess amino acids cannot be stored in the body
- Muscle strength, size and shape comes from exercise
- Too much protein can result in nutrient imbalance, kidney strain, dehydration, and excess body weight

## *Example*

- A female competitive tri-athlete trains 2-3 hours every day. Her body weight is 120lbs.

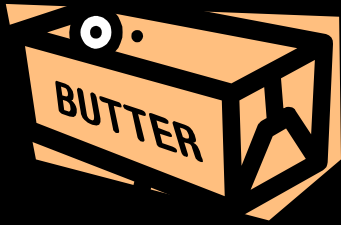
$$120 \text{ lbs} / 2.2 = 54.5 \text{ kg}$$

$$54.5 \text{ kg} \times 1.3 \text{ g/kg} = 71 \text{ grams of PRO/per day}$$

- 
- A body builder wants to increase his lean muscle mass, he lifts 3 hours every day. His weight is 210lbs .
  - Using a 2g Pro/Kg/BW – How much protein would he need in a day?

*Answer:*

191grams of Protein / day



## *Fats*

- Provide essential nutrients, vitamins and provides energy
- Aerobic exercise training increases the ability of the muscles to use fat as an energy source



# Types of Fat

## Saturated fats

Saturated fats are found in animal products such as butter, cheese, whole milk, ice cream, cream, and fatty meats, and oils such as coconut, palm, and palm kernel oil



*Saturated*

Omega-3 fatty acids are found in oily fish like salmon and flaxseed and canola oils



*Unsaturated*

## Trans-fatty acids

Trans-fatty acids are found in fried foods, commercial baked goods, processed foods and margarine



*Trans*

*Examples on how to lower fat  
intake?*



# *Tips to Decrease Fat*



- Use nonstick spray for cooking
- Use sauces and salad dressing sparingly!
- Use low fat milk, cheese, and yogurt
- Choose bagels, English muffins, or toast in place of donuts, Danish, croissants.

# Nutrition Facts

Serving Size ½ cup (114g)

Servings Per Container 4

## Amount Per Serving

**Calories** 90      **Calories from Fat** 30

### % Daily Value\*

**Total Fat** 3g      **5%**

Saturated Fat 0g      **0%**

**Cholesterol** 0mg      **0%**

**Sodium** 300mg      **13%**

**Total Carbohydrate** 13g      **4%**

Dietary Fiber 3g      **12%**

Sugars 3g

**Protein** 3g

Vitamin A 80% • Vitamin C 60%

Calcium 4% • Iron 4%

\* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

		Calories:	
		2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Calories per gram:

Fat 9 • Carbohydrate 4 • Protein 4

# *How Much Sugar and Fat are in....??*



- Sugar:
  - 1 poptart: 17grams of Sugar
  - 1 cup vanilla ice cream: 25grams of Sugar
  - 1- 12oz can of Soda: 40grams of Sugar
- Fat:
  - Chicken Caesar Salad: 20grams of Fat
  - Fried Mozzarella Sticks: 25grams of Fat
  - Cheese Fries: 27grams of Fat

*Lets Make a Sobe  
Drink!!!!*



*Can I get a Volunteer ??*

# *Nutrient Comparison*

	<u>Calories</u>	<u>Fat</u>	<u>Saturated Fat</u>
<b><i>Panera Cinnamon Crunch</i></b>	<b><i>410</i></b>	<b><i>8 grams</i></b>	<b><i>4.5 grams</i></b>
<b><i>Krispy Crème Glazed</i></b>	<b><i>200</i></b>	<b><i>12 grams</i></b>	<b><i>3 grams</i></b>
Dunkin Donuts Glazed	180	8 grams	1 gram
1 mini bagel	80	1 gram	0 gram

# *Nutrient Comparison*

<u>Item</u>	<u>Calories</u>
Big Mac	540
Large Fries	570
Large Coke	310
<b>Total:</b>	<b>1420 Kcals</b> <b>63 grams Fat</b>

<u>Item</u>	<u>Calories</u>
Hamburger	270
Fruit and Walnut Salad	210
1% Low Fat Milk	100
<b>Total:</b>	<b>580 Kcals</b> <b>22 grams Fat</b>

# *Nutrient Comparisons*

**Lettuce**

**Tomato**

**Cheese**

**Egg**

***Macaroni Salad***

***Coleslaw***

***Chicken Salad***

***Sunflower Seeds***

***Croutons***

***Ranch Dressing***

***Calories: 905***

***Fat: 87 grams***

**Lettuce/Spinach**

**Tomato**

**Carrots**

**Broccoli**

***Mushrooms***

***Chick Peas***

***Green Pepper***

***Fruit Salad***

***Dinner Roll***

***Reduced Fat Dressing***

***Calories: 390***

***Fat: 10 grams***

# Portion Distortion Interactive Quiz

[Healthy Weight Home](#)

[BMI Calculator](#)

[Menu Planner](#)

[WeCan!](#)

[OEI Home](#)



- A bagel 20 years ago was 3 inches in diameter and had **140 calories**. How many calories do you think are in today's bagel??

*Today's bagel has 350  
calories!!!*



210 Extra Calories

# Portion Distortion Interactive Quiz



[Healthy Weight Home](#) [BMI Calculator](#) [Menu Planner](#) [WeCan!](#) [OEI Home](#)



- A portion of spaghetti and meatballs 20 years ago had **500 calories**. How many calories do you think are in today's portion of spaghetti and meatballs?

# *Spaghetti and Meatballs* *has* *calories*



525 Extra Calories



One 12 oz beer has 103 calories. Did you ever stop and think about how many calories are in 6 beers?



=



618 Calories !!!



One Rum and Coke has 240 Calories, Did you ever wonder how many calories were in 6 Rum and Cokes??



6 Rum and Cokes have  
1,440 Calories!!!!



# *Alcohol*

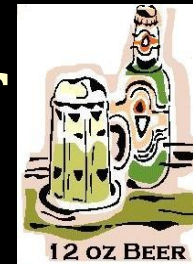
- *7 calories / gram*
- Poor source of fluids – dehydrates
- Decreases the absorption of vitamins
- Depletes the liver's glycogen stores and impairs its capacity to form new glucose.
- Empty Calories !!

# *What counts as a drink?*

4 oz of Wine



12 oz of Beer



1.5 oz of whiskey or other hard



# *How much is too much Caffeine??*

- High Intake: 500 mg
- Medium Intake: 250 – 500 mg
- Low Intake : 250 mg or less



- High Amounts = Nervousness, irritability, insomnia, dizziness, fatigue, headaches, heartburn, anxiety, **dehydration**, etc.



# *Dehydration*

- 75% of all Americans are dehydrated
- 37% of American's thirst mechanism is so weak that it is often mistaken as hunger
- 3% of even mild dehydration will slow down metabolism
- Lack of water is the # 1 trigger of daytime fatigue, 100% of the time!



# *Sports Drinks*

- Mostly made up of sugar; empty calories
- Only needed when exercise is more than 60 minutes long, restore glycogen storage
- 32 oz of Gatorade = 200 calories, 56 grams of sugar

# *Energy Drinks*

- Increase Heart Rate
- Increase Blood Pressure
- Dehydrate the Body
- Never Use when Exercising
  - Combination of Fluid loss from sweating and the diuretic quality of the caffeine can leave the user severely dehydrated!



# *In Class Activity*





# *ary Supplements*

- What is a dietary Supplement?
  - A product that is taken by mouth that contains a “dietary ingredient” intended to supplement the diet.
- Dietary Ingredients in these products:
  - Vitamins, minerals, herbs, botanicals, amino acids, enzymes, organ tissues, gland tissue or secretions.



# *EPHEDRA*

- Warning:
  - Dangerous to those with heart conditions, high blood pressure, thyroid condition, history of kidney stones.
- FDA warns not to take  $>24$  mg/day
- Caffeine exacerbates the effects



# *Vitamins / Minerals*

- Helps to regulate energy processes in the body.
- Supplementation: not needed if eating a balanced diet.
- If you do not take a supplement, be sure to receive 100% RDA from food!
- More is better.....right????



# *Water Soluble Vitamins*

- Not stored in the body, the body excretes any extra!
  - Vitamin C
    - Strengthens the walls of the blood vessels, aids in wound healing and immunity.
  - Vitamin B Complex
    - Maintains health of skin, intestines, and nervous system.

*1,667% Vitamin C????*  
*Any vitamin or mineral taken in excess is excreted in the urine – “Expensive Pee”*

## Supplement Facts

Serving Size 1 tablet

Amount Per Serving		% Daily Value
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Vitamin C (as ascorbic acid, rose hips)	1,000 mg	1,667%
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Citrus Bioflavonoid Complex  
providing:

Lemon Bioflavonoids	300 mg	*
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Orange Bioflavonoids	75 mg	*
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Grapefruit Bioflavonoids	75 mg	*
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Hesperidin	50 mg	*
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Eriocitrin	25 mg	*
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Rutin	75 mg	*
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Rose Hips	10 mg	*
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\* Daily Value not established.



# *Fat Soluble Vitamins*

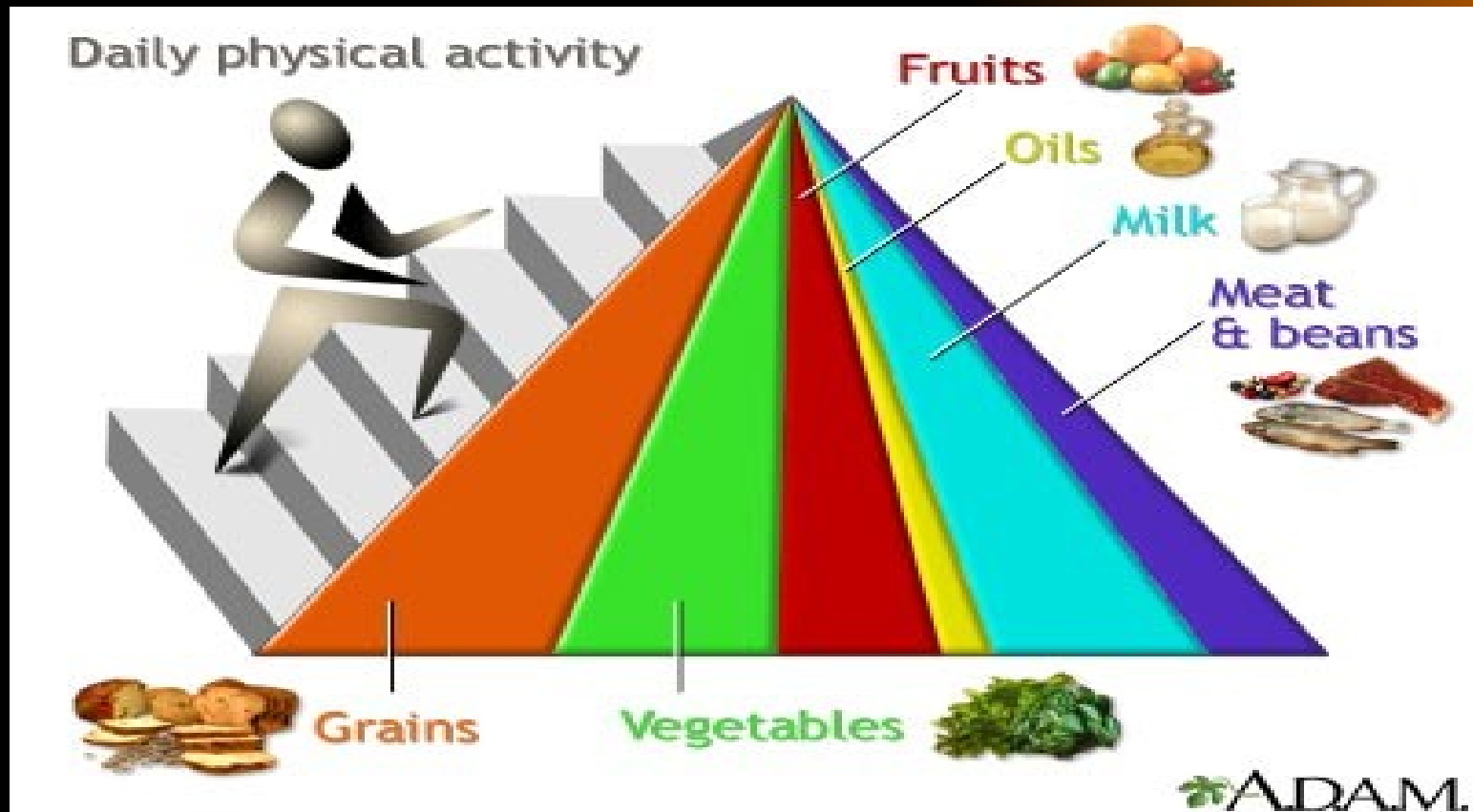
- Stored in the body and if taken in excess may become toxic
  - Vitamin A
    - Healthy skin tone, helps build antibodies, eyesight, growth
  - Vitamin D
    - Comes from sunlight
    - Helps build strong bones and joints
  - Vitamin E
    - Healthy Hair and skin, antioxidant, delays the aging process
  - Vitamin K
    - Aids in blood coagulation

# *Be a Smart Consumer...*

## *Ask yourself these questions*

- Is the supplement backed up by independent research on humans?
- Will the supplement help achieve your performance goals?
- Will it compromise your health or well being?
- Does the product interact with certain medications?

# *USDA Food Guide Pyramid*



[WWW.MYPYRAMID.GOV](http://WWW.MYPYRAMID.GOV)

# *In Class Activity*



# *In Summary*

- Choose healthier, lower fat foods
- Watch your portions
- Exercise
- Drink lots of water
- Moderation





*“Ability is what you're capable of doing.*

*Motivation determines what you do.*

*Attitude determines how well you do  
it.”*

*- Lou Holtz*